

AF
JFW 2814

PTO/SB/21 (02-04)
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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/032,757	
	Filing Date	December 27, 2001	
	First Named Inventor	Angela Hui et al.	
	Art Unit	2814	
	Examiner Name	Marcos D. Pizarro Crespo	
Total Number of Pages in This Submission	6	Attorney Docket Number	AF01171

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: Angela Hui et al.

Serial No.: 10/032,757

Filed: December 27, 2001

Group Art Unit: 2814

Before the Examiner: Marcos D. Pizarro Crespo

Title: METHOD AND SYSTEM FOR FORMING DUAL GATE
STRUCTURES IN A NONVOLATILE MEMORY USING A
PROTECTIVE LAYER

June 15, 2004

REPLY BRIEF


Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Reply Brief is being submitted in response to the Examiner's Answer dated May 11, 2004 (Paper No. 12), with a two-month statutory period for response set to expire on July 11, 2004.

CERTIFICATION UNDER 37 C.F.R. § 1.8

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I. RESPONSE TO EXAMINER'S ARGUMENTS

- A. Response to Examiner's argument, as discussed on pages 6-7 of Paper No. 12, that the reference Sun et al. (U.S. Patent No. 5,933,730) (hereinafter "Sun") illustrates the fact that the nitride layer 400, as disclosed in Lien, is a spacer.

The Examiner asserts that Figure 9F of Sun indicates that element 714' and element 714 are both spacers. Paper No. 12, page 6. Appellants respectfully traverse. Element 714 corresponds to a spacer oxide and not to spacers. Sun states:

In the peripheral area, the gate 702 now has a first spacer oxide 714 deposited upon it, which in turn has a layer of photoresist 718 on top of it. Column 4, line 67 – column 5, line 3.

Sun further states that:

In FIG. 9F, the stacked gates 700a and 700b in the core area are shown with etched spacers 714'.

As illustrated in Figure 9F, the spacer oxide 714 over the core area is etched to form spacers 714'. Hence, spacers are formed by etching the spacer oxide. Spacer oxide is not the same as spacers. That is, element 714 is not a type of spacer.

Further, the Examiner asserts that Figure 9K of Sun indicates that element 740 and element 730 are both spacers. Paper No. 12, pages 6-7. Appellants respectfully traverse. Element 730 corresponds to a spacer oxide and not to spacers. Sun states:

In the core area, the stacked gate 700a and 700b are shown with a layer of etched first spacer oxide 714', a layer of the second spacer oxide 730, and a layer of the photoresist 732. Column 5, lines 50-53.

Sun further states that:

However, in the peripheral area, the gate 702 now has spacers 740 along its side caused by the etching of the first and second spacer oxide 714 and 730.

As illustrated in Figures 9J and 9K, the spacer oxide layers 714 and 730 over the peripheral area are etched to form spacers 740. Hence, spacers are formed by etching spacer oxide. Spacer oxide is not the same as spacers. That is, element 730 is not a type of spacer.

The Examiner states:

In light of the above, the fact that Lien uses etching to form spacers 410, 420 in the peripheral region 10, 20 and does not use etching to form the spacer 400 in the core region 30 is not evidence that the nitride layer 400 in the core region 30 is not a spacer, as spacers are known in the art. Paper No. 12, page 7.

Appellants respectfully traverse the assertion that nitride layer 400 of Lien is a spacer. Instead, as the Examiner admits, nitride spacers 420 of Lien are formed by etching the silicon nitride layer 400 (see column 4, lines 1-4 of Lien). Hence, spacers are formed by etching the silicon nitride layer 400. This is similar to what is taught in Sun. As stated above, Sun discloses that spacers are formed by etching spacer oxide. Consequently, silicon nitride layer 400 is not the same as spacers. Lien does not disclose etching the silicon nitride layer 400 over the core region 30 to form spacers and hence does not disclose spacers over the core region 30. Consequently, Lien does not disclose "a plurality of core spacers, each of the plurality of core spacers residing along an edge of the plurality of core gate stacks" as recited in claim 2. Thus, Lien does not disclose all of the limitations of claim 2, and thus Lien does not anticipate claim 2. M.P.E.P. §2131.

- B. Response to Examiner's argument, as discussed on pages 6-7 of Paper No. 12, that Appellants' arguments are mainly directed to process aspects of the invention.

The Examiner asserts that Appellants' arguments are mainly directly to the process aspects of the invention. Paper No. 12, pages 6-7. Appellants respectfully traverse. The argument that Lien does not disclose core spacers residing along an edge

of the core gate stacks is entirely directed to structure.¹ None of Appellants' arguments are directed to process aspects of the invention. The Examiner merely asserts that Appellants' arguments are directed to process aspects of the invention without providing any examples or evidence to support his assertion. This is insufficient and is not a basis for asserting that Lien discloses core spacers residing along an edge of the core gate stacks.

C. Other matters raised by the Examiner.

All other matters raised by the Examiner have been adequately addressed above and in Appellants' Appeal Brief and therefore will not be addressed herein for the sake of brevity.

¹ Appellants argue on pages 4-5 of Appellants' Appeal Brief (Paper No. 11) that Lien does not disclose "a plurality of core spacers, each of the plurality of core spacers residing along an edge of the plurality of core gate stacks" as recited in claim 2.

II. CONCLUSION

For the reasons stated in Appellants' Appeal Brief and noted above, Appellants respectfully assert that the rejections of claims 2 and 3 are in error. Appellants respectfully request reversal of the rejections and allowance of claims 2-6 and 16-19.

Respectfully submitted,

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